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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,906	10/03/2003	Yufei Chen	007773/CMP/CMP	2224

7590 08/25/2004

APPLIED MATERIALS, INC.
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EXAMINER

MCDONALD, SHANTESE L

ART UNIT PAPER NUMBER

3723

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

✓W

Office Action Summary	Application No. 10/678,906	Applicant(s) CHEN ET AL.	
	Examiner Shantese L. McDonald	Art Unit 3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-31 is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/12/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 15-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear in claim 15, how the substrate can be "in the platen".

It is unclear in claim 16, as to what is meant by "decelerating the substrate form contact", as claimed in line 12.

It is unclear in claim 17 and 18 what is meant by "end the" as claimed in line 2.

Claim 6 recites the limitation "the third platen" in line 1, and "the third carrier head", in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 26 recites the limitation "the third linear velocity" in line 1, and "the third carrier", in line 2. There is insufficient antecedent basis for this limitation in the claim.

The claims appear to have numerous 112 issues, further review and revision is requested.

Claim Objections

Claim 10 is objected to because of the following informalities: Claim 10 is depending from claim 10. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Kin et al.

Kim et al. teaches a method for processing a substrate comprising positioning the substrate, in a polishing apparatus having a rotational carrier head and a rotatable platen, wherein the substrate is disposed in the rotational carrier head and the platen has a polishing article disposed thereon, rotating the carrier head at a first carrier head rotational rate and rotating the platen at a first platen rotational rate, contacting the substrate with the polishing article at a polishing pressure of less than about 2 psi, accelerating the first carrier head rotational rate to a second carrier head rotational rate and accelerating the first platen rotational rate to a second platen rotational rate and further decelerating the second carrier head rotational rate to a third carrier head rotational rate and decelerating the second platen rotational rate to a third platen rotational rate, wherein the first platen rotational rate is less than about 100 rpm and the

first carrier head rotational rate is less than about 100 rpm, (col. 7, line 14 – col. 8, line 17).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 5-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al.

Kim et al. teaches all the limitations of the claims except for the step of removing the substrate from contact with the platen and the second platen rotational rate being between about 120 rpm and 750 rpm and the second carrier head rotational rate being between about 120 rpm to 500 rpm, the third platen rotational rate being less than 100 rpm and the third carrier head rotational rate being less than 100 rpm, accelerating the first carrier head and platen rotation rates to between about 5 to 60 rpm/s, the polishing pressure being between about 0.1 and 1 psi and decelerating the second carrier head and the second platen rotational rates to between about 5 to 60 rpm/s. It would have been obvious to one having ordinary skill in the art at the time the invention was made to operate the polishing apparatus of Kim et al. with the above listed parameters, in order to vary the polishing times, speeds, and results, and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Allowable Subject Matter

Claims 21-31 are allowed. Depending on the revision of the claims for 112 issues.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Koder et al., Lin, and Avanzino et al. were cited to show other polishing methods.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shantese L. McDonald whose telephone number is (703) 308-8722. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on (703) 308-2687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/678,906
Art Unit: 3723

Page 6

S.L.M.
August 20, 2004

A handwritten signature in black ink, appearing to read "Joseph J. Hail, III". The signature is fluid and cursive, with a large initial "J" and a stylized "H".

Joseph J. Hail, III
Supervisory Patent Examiner
Technology Center 3700